

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)
)
Allocation of Spectrum Below)
5 GHz Transferred from)
Federal Government Use)

ET Docket No. 94-32

TO: The Commission

COMMENTS OF
THE PART 15 COALITION

The Part 15 Coalition ("the Coalition") submits these comments in the above-referenced proceeding.¹ The Coalition represents over four dozen companies that produce radio devices designed to operate on an unlicensed basis in compliance with the Commission's Part 15 rules.² Among other things, the NPRM seeks comment on "retaining future use of [the 2402-2417 MHz] band by Part 15 equipment."³ For the reasons discussed below, the Coalition supports

¹ Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, Notice of Proposed Rulemaking, ET Docket No. 94-32 (rel. Nov. 8, 1994) (hereinafter "NPRM"). The transfer of spectrum from government to private use was mandated by Congress in the Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, § 6001, 107 Stat. 312 (1993). The NPRM seeks comment on the proper allocation of 50 MHz of spectrum identified by the National Telecommunications and Information Administration ("NTIA") for immediate transfer. One of the spectrum blocks identified by NTIA is the 2402-2417 MHz band, which is currently allocated for Industrial, Scientific, and Medical applications ("ISM"), amateur radio service, and unlicensed low-power devices operating under Part 15 of the Commission's rules. These comments only address the allocation of this band.

² A list of the Coalition's members is attached as Appendix A.

³ NPRM ¶ 18.

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retaining the use of this band by Part 15 equipment and opposes auctioning this band for licensed or unlicensed services.

I. BACKGROUND

The Coalition represents nearly 50 companies involved in the development and marketing of unlicensed wireless products designed to operate under the Commission's Part 15 rules. Its members' products have widespread consumer appeal and contribute significantly to public safety and welfare. For instance, the Coalition's members produce digital cordless telephones, electronic surveillance equipment, utility metering devices, wireless digital modems, fire and security alarm devices, wireless bar code scanners, airborne and marine collision avoidance systems, and local and wide area data network products that allow for Internet access and interactive computer applications.

The wide array of products produced by the Coalition's members demonstrates the success of the Commission's Part 15 rules, which were modified in 1985 so that low-power, unlicensed devices could use the ISM bands.⁴ Since that rule change, the explosion of consumer and business products using this technology has far exceeded all expectations. The public need for unlicensed services has been well established by the hundreds of Part 15 wireless data network products now available. Schools, hospitals, utility companies, and the general public have greatly benefited from low-cost deployment of communications and monitoring services. As NTIA has stated in a recent letter to the Commission, today, the "critical importance of wireless systems [operating under Part 15] to the future development of the National Information

⁴ See 47 C.F.R. §§ 15.247, 15.249 (1993) (unlicensed, low-power devices use ISM bands (902-928 MHz, 2402-2483.5 MHz, and 5700-5825 MHz) on a secondary basis).

Infrastructure (NII) is well recognized.”⁵ The Commission twice has reaffirmed its support for the use of the ISM bands by Part 15 technologies and has continued to encourage manufacturers to invest in the development of such technologies.⁶

The Commission’s support for unlicensed services in the ISM bands has been welcome, particularly in light of the paucity of spectrum available to entrepreneurs and small businesses developing new telecommunications products and services. These entrepreneurial businesses often cannot afford the high cost of obtaining licensed spectrum, which is becoming an increasingly formidable barrier to entry given the extraordinary sums that have been bid in recent spectrum auctions.

The proposal to reallocate the 2400 MHz ISM band for licensed use, in combination with the proposed introduction of Automatic Vehicle Monitoring/Location and Monitoring Services (“AVM/LMS”) in the 900 MHz ISM band, signals a retreat from the Commission’s earlier support for Part 15 devices, which will chill investment in, and stifle development of, new communications products and services using unlicensed Part 15 technologies.

II. DISCUSSION

The Commission proposes to designate the 2402-2417 MHz band for general Fixed and Mobile services and to make licenses available for this

⁵ Letter from Larry Irving, NTIA Administrator, to Reed Hundt, FCC Chairman, ET Docket Nos. 94-32, 94-124, and PR Docket No. 93-61 (Dec. 12, 1994) at 1 (*hereinafter* “Irving Letter”).

⁶ See Revision of Part 15 of the Rules Regarding the Operation of Radio Frequency Devices Without an Individual License, First Report and Order, 4 FCC Rcd 3493 (1989), Amendment of Parts 2 and 15 of the Rules with Regard to the Operation of Spread Spectrum Systems, Report and Order, 5 FCC Rcd 4123 (1990).

spectrum through competitive bidding.⁷ In view of this proposal, the Commission “requests comment on retaining future use of [the 2402-2417 Mhz] band by Part 15 equipment.”⁸ The Commission posits three possibilities: (1) “eliminating this band from Part 15 use in order to avoid any potential conflicts with future licensed service”; (2) “maintaining Part 15 use of this band and also implementing licensed services”; or (3) “maintaining Part 15 use of this band while limiting licensed use.”⁹ As the Commission has recognized, “reallocation of this band would jeopardize the significant private sector investment already made in developing new technologies operating under Part 15 ... [which would] result in loss of benefits to the public and the Federal Government.”¹⁰

Accordingly, the Coalition urges the Commission to retain future use of the 2402-2417 MHz band by Part 15 equipment and to exclude future licensed services from the band, whether those licenses are awarded by auctions or otherwise.

A. Authorization Of Licensed Services In The 2402-2417 MHz Band Offers No Benefit To The Public And Would Not Generate Large Revenues For The Government Through Auctions.

As the Commission has recognized, “[i]t will be extremely difficult to provide a licensed service in this band because of its heavy use by ISM equipment.”¹¹ Radio emissions generated by proposed microwave lighting systems and microwave ovens, which peak at approximately 2450 MHz, but which are substantial throughout the 2400 MHz ISM band, are particularly

⁷ NPRM ¶ 9.

⁸ Id. ¶ 18.

⁹ Id.

¹⁰ Report to Ronald H. Brown, Secretary, U.S. Department of Commerce, Regarding the Preliminary Spectrum Reallocation Report ¶¶ 39, 51 (rel. Aug. 9, 1994) (*hereinafter* FCC Report); see also Irving Letter at 2 (“Providing spectrum for nonlicensed uses should be considered for the 2402-2417 MHz band. . .”).

¹¹ FCC Report ¶ 50.

problematic for most communications products operating in this band.¹² Part 15 technologies are able to function in this environment because they employ spread spectrum technology. Licensed services would experience more interference and would also cause greater interference to other users in the band. The 2402-2417 MHz band simply is not suitable for new licensed services. Thus, although the cost to the public in loss of service from the dislocation of Part 15 devices would be great, the revenues that the Commission could expect to receive by auctioning this spectrum likely would be minimal.

B. Adding Licensed Services To The 2402-2417 MHz Band Would Render The Band Unusable For Part 15 Technologies.

Both NTIA and the Commission have recognized the wide range of consumer, public safety, and business applications for spread spectrum devices operating under Part 15.¹³ Indeed, the Commission's report to NTIA noted that the Commission's "attempts to encourage th[e] development [of Part 15 devices] have been successful and today millions of Part 15 spread spectrum devices provide a wide variety of communications services...."¹⁴ Part 15 devices are "the foundation for many consumer, business, and industrial products."¹⁵

The services provided by these products will be lost if new licensed services are added to the 2402-2417 MHz band. Although most Part 15 devices are designed with features that allow them to avoid interfering signals, the introduction of licensed services into this band would so limit the available

¹² Id. ¶ 38.

¹³ See Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, Notice of Inquiry, 9 FCC Rcd 2175, 2176 n.14 (1994); Preliminary Spectrum Reallocation Report, NTIA, 3-12 & 13 (Feb. 1994) (*hereinafter* "NTIA Report").

¹⁴ FCC Report ¶ 13.

¹⁵ NTIA Report, at 3-10.

spectrum as to make the band unusable for unlicensed devices.¹⁶ The Coalition estimates that its members have invested over \$2 billion in research and development of unlicensed radio devices. As the Commission has noted, “reallocation of this band would jeopardize the significant private investment already made in developing new technologies operating under Part 15.”¹⁷

Moreover, services yet-to-be discovered may be indefinitely delayed or forever lost. The Part 15 bands are truly “entrepreneurs’ bands.” As NTIA’s recent letter makes clear, the availability of these bands provides “significant opportunities for innovators and small companies to make contributions to the overall mix of products and services available through the NII.”¹⁸ Outside of these bands, there is precious little spectrum available for the development of new, innovative technologies by entrepreneurial businesses, which often cannot afford the high cost of acquiring a license or the delays inherent in Commission rulemaking proceedings to create new radio services. The loss of these products will hurt consumers as well as businesses. The present offering of popular Part 15 products is but a small sample of the proliferation of products and services that we can expect if the Part 15 bands remain a safe haven for innovation and entrepreneurship.

Although the Commission has consistently supported the incubation of ideas and technologies that takes place in the Part 15 bands, its recent proposals reflect a retreat from this position. In the 900 MHz ISM band, where most of the early Part 15 innovation occurred, the Commission has indicated that it will

¹⁶ FCC Report ¶ 39 (unlikely that unlicensed devices would be able to share this band with licensed services); see also Amendment of Parts 2 and 15 of the Commission’s Rules to Permit Use of Radio Frequencies Above 40 GHz for New Radio Applications, NPRM, ET Docket No. 94-124, (rel. Nov. 8, 1994) at ¶ 19 (“sharing of spectrum by unlicensed and licensed operators would not be workable”).

¹⁷ FCC Report ¶ 39.

¹⁸ Irving Letter at 1.

introduce licensed AVM/LMS systems that will crowd out many Part 15 services and users. In this proceeding, the Commission has suggested that it may reallocate a portion of the 2400 MHz ISM band to licensed users, which would severely constrict the spectrum available for Part 15 technologies in this band, particularly given the ubiquity of microwave ovens and proposed introduction of industrial lighting systems using the 2400 MHz ISM frequencies. Taken together, the two reductions in available spectrum would send a signal to the marketplace that unlicensed users will not be protected against spectrum encroachment in the future, which would effectively stifle the development of new technologies under Part 15.

The preservation of the 2400 MHz ISM band for unlicensed services is particularly important to the future of Part 15 technologies. At present, the 2400 MHz ISM band is not as heavily used as the 902-928 MHz ISM band, but deployments in the 2400 MHz band are rapidly expanding for new unlicensed radio services due to a variety of technical and legal factors. Most importantly, the use of the 2400 MHz band by Part 15 devices is consistent with international rules so that devices manufactured in the United States can be more easily marketed abroad.¹⁹ U.S.-based companies already have established a global leadership position in the market for devices designed to operate in the 2400 MHz band. Many other nations, including those in the European Union, Japan, and other industrialized countries, have authorized unlicensed spread spectrum operation at 2400 MHz in response to the policy direction set by the FCC. There is a unique opportunity for American companies to take a leadership position in this emerging multi-billion dollar, worldwide industry. This export opportunity will be lost, however, if the domestic industry is not permitted to develop as a

¹⁹ See Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, 9 FCC Rcd at Appendix D-6.

consequence of the imposition of licensed services at 2400 MHz contemplated in this proceeding. In turn, research and development efforts will move off-shore to be closer to user markets. In sum, the United States will lose competitiveness in a critical communications technology if Part 15 devices are eliminated from the 2400 MHz band.

C. The 2402-2417 MHz Band Should Not be Auctioned.

The Commission has proposed to make the 2402-2417 MHz band available through competitive bidding.²⁰ Under the Communications Act, auctions are authorized only when there exists mutually exclusive applications for initial licenses or construction permits, or when the use of the spectrum is likely to involve the receipt by a licensee of compensation from subscribers for use of the spectrum.²¹ The NPRM appears, therefore, to comprehend auctioning the 2402-2417 MHz band for licensed services. For the reasons stated above, the Coalition opposes the introduction of licensed services into this band.

Moreover, the Coalition opposes any suggestion that the band should be auctioned for unlicensed use. To begin with, auctioning spectrum for unlicensed services would clearly contravene the intent of Congress. As recognized in the Report to Accompany the Omnibus Budget Reconciliation Act of 1993, in which auctions were authorized, "competitive bidding would not be permitted to be used for unlicensed uses."²² On this rationale, the Commission declined to auction spectrum for unlicensed PCS services.²³ Second, auctioning spectrum for unlicensed services would be impractical at best. Unlicensed devices provide

²⁰ NPRM ¶ 9.

²¹ 47 U.S.C. § 309(j)(1).

²² H.R. Rep. No. 103-111 at 253.

²³ See Implementation of Section 309(j) of the Communications Act - Competitive Bidding, Second Report and Order, 9 FCC Rcd 2348, 2358 & n.50 (1994).

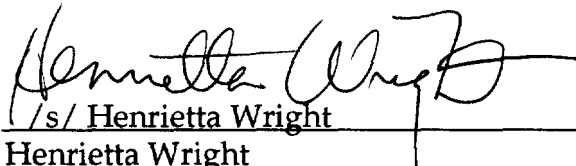
services to many different users at the same time in the same locale. As a practical matter, there is no single entity to bid for use of the spectrum and, in any event, providing any single entity with interference protection would make the use "licensed." To the extent that consortia might be formed to bid for spectrum (*i.e.*, interference protection) for a variety of unlicensed devices, such efforts would be thwarted by market forces — free riders would use the spectrum without participating in the "licensee" consortium. Finally, spread spectrum devices need reasonably broad bandwidth in which to operate. Small bands that one could purchase at auction (e.g., 6 MHz) would not be sufficient.

III. CONCLUSION

The addition of licensed services to the 2402-2417 MHz band would have a deleterious affect on the use of the band for Part 15 technologies that currently provide substantial public benefits. Therefore, the Coalition supports retaining the use of the 2402-2417 MHz band by Part 15 users and opposes auctioning this band for licensed or unlicensed services.

Respectfully submitted,

PART 15 COALITION

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APPENDIX A
THE PART 15 COALITION

Apple Computer	Cupertino, CA
Hewlett-Packard	Palo Alto, CA
Metricom	Los Angeles, CA
Tetherless Access	Fremont, CA
California Microwave	Sunnyvale, CA
National Semiconductors	Santa Clara, CA
Proxim	Mountain View, CA
Selectec	San Diego, CA
Stanford Telecom, AS	Sunnyvale, CA
WINDATA	Massachusetts
Xircom	Calabasas, CA
AT&T	New Jersey
Cincinnati Microwave	Cincinnati, OH
Cobra Electronics	Chicago, IL
Ericsson GE	North Carolina
Omnipoint	Colorado Springs, CO
ROLM	Santa Clara, CA
Spectralink	Boulder, CO
Tatung Telecom	Mountain View, CA
Uniden America	Indiana
Granite Communications	Nashua, NH
Intermex	Seattle, WA
Symbol Technologies	Long Island, NY
Telxon	Akron, OH
CellNet Data Systems	San Carlos, CA
Cylink	Sunnyvale, CA
Western Multiplex	Belmont, CA
Clinicom	Boulder, CO
Wise Communications	Los Gatos, CA
Ademco	Long Island, NY
Axon/Life Point	New Orleans, LA
C&K Systems	Sacramento, CA

Radionics
GRE America
Intellon Corp.
Itron
Recoton
Sensormatic
Trimble Navigation
Voyager Technologies
American Wireless
Comtech Information Systems
Nav Guard
Real-Time Data
Summit Design
Terk Technologies
Thompson CSF
Utilicom

Salinas, CA
Belmont, CA
Florida
Spokane, WA
Long Island, NY
Florida
Sunnyvale, CA
Morgan Hill, CA
Seattle, WA
Warwick, RI
Seattle, WA
Seattle, WA
Renton, WA
Long Island, NY
Syracuse, NY
Santa Barbara, CA